

NRO review completed

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16 January 1969

MEMORANDUM FOR: Director, CIA Reconnaissance Programs  
SUBJECT : Program Progress Report

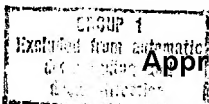
Forwarded herewith are Program Progress Reports  
(5 copies each) for OXCART and IDEALIST for the period  
1 October 1968 - 31 December 1968.

[ ]  
DONALD H. ROSS  
Brigadier General, USAF  
Director of Special Activities

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Attachment:  
As stated [ ] 6389-69)

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SAS/O/OSA  (10 Jan 69)  
Distribution:

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OX CART

PHASE-OUT SUMMARY AND PROGRESS

(1 October 1968 - 31 December 1968)

I. GENERAL

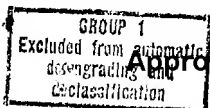
A. SCOPE COTTON Activities: During the period 9-20 December 1968, OXCART property records [ ] were examined by the Agency Audit Staff representatives. A formal report of the audit will be furnished this headquarters by the auditors. However, interim reports were prepared by the Audit Team during the course of the survey, indicating that records and documentation for these assets were considered excellent; that the close-out actions had been performed in accordance with SCOPE COTTON directives; and that placement of [ ] OXCART records in depot storage was authorized. This audit will formally culminate actions by this headquarters [ ] with respect to the disposition and distribution that was made of the SCOPE COTTON assets.

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The TAGBOARD Program is scheduled to depart from [ ] by 15 February 1969. [ ] is scheduled to depart

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[ ] during third quarter FY69. During the interim, a limited support posture in billeting, messing and other base services is being maintained at [ ]

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C. A-12 Aircraft Storage: The following nine A-12 aircraft are stored at Palmdale, California, in accordance with SCOPE COTTON Decision #20:

Aircraft #121	(Test)
Aircraft #122	(Test)
Aircraft #124	(Trainer)
Aircraft #127	(Operational)
Aircraft #128	(Operational)
Aircraft #130	(Operational)
Aircraft #131	(Operational)
Aircraft #132	(Operational)
Aircraft #134	(TAGBOARD)

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IDEALIST

DEVELOPMENT SUMMARY AND PROGRESS

(1 October 1968 - 31 December 1968)

I. AIRFRAME

A. Flight Instrumentation Package - During this report period, a Flight Instrumentation Package was delivered and four demonstration flights completed. The package records vehicle motions, temperature, pressure and other environmental data at as many as 70 locations in the aircraft, simultaneously with the operation of primary camera or other sensor. The purpose is to determine precise effects of environmental conditions on the imagery produced by the camera.

B. Backup Generator Cooling - Installation of a cooling duct to the emergency AC/DC generator has satisfactorily solved the problem of inadequate cooling of this generator under full electrical load. This cooling duct picks up ram-air from the inlet to the secondary air passage at the engine face and conducts it directly to the emergency AC/DC generator.

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C. U-2R FLIGHT TEST AND OPERATIONAL TRAINING  
SUMMARY (THRU 31 DECEMBER 1968)

	<u>O.N.D.</u> <u>FLTS</u>	<u>TIME</u> <u>O.N.D.</u>	<u>TOTAL</u> <u>FLTS</u>	<u>TOTAL</u> <u>TIME</u>
1 - 051	13	43.8	95	308.2
2 - 052	8	28.4	55	202.5
3 - 053	10	20.8	68	195.6
4 - 054	13	40.6	61	189.6
5 - 055	23	57.0	56	156.6
6 - 056	--	----	21	47.1
7 - 057	20	107.8	35	159.1
8 - 058	22	64.9	38	120.8
9 - 059	--	----	6	11.0
10 - 060	14	16.9	14	16.9
11 - 061	9	16.6	9	16.6
12 - 062	<u>7</u>	<u>12.2</u>	<u>7</u>	<u>12.2</u>
TOTAL	139	409.0	465	1436.2

II. PROPULSION

Engine Thrust Management - A review of Pratt & Whitney's recommendation for an EPR (engine pressure ratio) versus altitude schedule for operating the J75-P-13B engine

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was based on analysis of flight test data by Pratt & Whitney, and concluded that this EPR schedule appeared to be too conservative. A less conservative EPR schedule is being developed to be based on data now being accumulated at Detachment G. This EPR schedule will then be verified at Detachment H to assure stall-free engine operation in the colder altitude conditions in that area. The objective is to establish a thrust management schedule which will provide maximum climb power without incurring compressor instabilities. (It may be possible to operate the engine to 665° EGT under all conditions, if no instabilities occur at the coldest known altitude temperatures).

### III. PAYLOAD

A. "B" and "H" camera flight tests in the U-2R have been completed to demonstrate system compatibility with the U-2R. No significant compatibility problems were noted during these flight tests.

B. The first (of thirteen) IRIS II (Rotating Optical Bar) cameras was delivered on December 11, 1968. Delivery of three IRIS II cameras is scheduled during the third quarter FY69. Initial flight tests indicate that specifications for the system will be met or exceeded and that cost will be less than target price.

### IV. GENERAL RESEARCH AND DEVELOPMENT

#### A. GENERAL R&D

1. Drag Reduction Program - The wind tunnel test program at NASA Ames Research Center was performed during this reporting period. These tests were conducted on a 12% scale model U-2R half span wing at near flight Mach and Reynolds numbers; analysis is now under way.

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D. U-2R HIGHLIGHTS

1. Aircraft 051: This aircraft has been employed during the flight test program for the many tests requiring a specially instrumented aircraft. The aircraft has been delivered to Lockheed for the incorporation of Service Bulletins, [ ] and placing it into an operational configuration.

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2. Aircraft 053: This aircraft has the Hycon environmental test package installation, and has been the primary vehicle for flight testing conducted with the IDEALIST cameras.

3. Aircraft 054: This aircraft is assigned to Lockheed for incorporation of the [ ] modification and flight "shakedown" prior to its being turned over to Detachment G. Scheduled delivery of the aircraft to Detachment G is 10 February 1969. Upon receipt of the aircraft, Detachment G will conduct qualification flight tests to insure an operationally ready aircraft.

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4. \*Aircraft 057: Swap Shop X, 14 January 1969

5. \*Aircraft 058: Swap Shop XI, 4 February 1969

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E. U-2R PROBLEM (Liquid Oxygen System)

Problems with the U-2R Liquid Oxygen (LOX) System were encountered during the [ ] deployment to McCoy AFB, Florida (September 1968). This deployment exposed Article 058 to an operational environment of precipitation and high humidity. Venting losses of LOX were first attributed, by Lockheed (LAC), to a drain valve freezing, although the valve was of cryogenic design. Upon return to Edwards AFB, this problem was made a subject of special testing and evaluation by LAC and the detachment. Primary symptoms continued to be a high pressure build-up with subsequent quantity losses of LOX through venting, and low pressure warnings while in flight.

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Corrective actions have included revision of maintenance procedures, examination for any possible contamination of systems, [ ] performance of high pressure tests on valves and installation of a filter, and a rigorous operational testing of check valves and related hardware.

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Current actions involve "replumbing" of the converter and removal of a check valve and a pressure control valve in the "economizer" circuit. This modified converter has, as of this writing, undergone 20 hours of in-flight testing (four flights) and results indicate the problem is near resolution.

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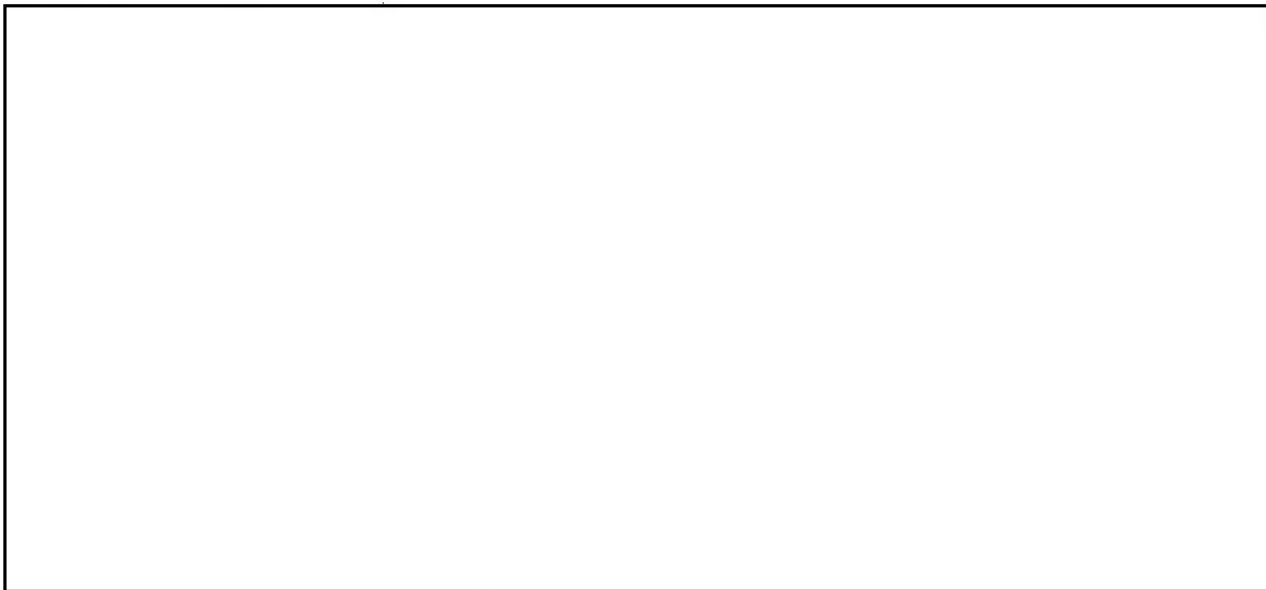
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II. GENERAL



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3. RED DOT: Film testing - Six missions completed in support of IDEALIST and other programs, as well as the general intelligence community for determining usefulness of various films and filters under operational conditions.

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III. PILOT AND AIRCRAFT STATUS (AS OF 31 DECEMBER 1968)

DETACHMENT "G" (EDWARDS AFB)

Pilots

[Redacted]

Aircraft

2 U-2G  
5 U-2R

DETACHMENT "H"

Pilots

[Redacted]

Aircraft

2 U-2C/G

OXCART/IDEALIST

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